Prize Winning Abstracts: Porto 2018

Anti-pneumococcal vaccination in patients with COPD in a Primay Care Health Unit

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Aim: The aims of this study were to know the prescription profile of anti-pneumococcal vaccines and the compliance to this vaccination by patients with Chronic Obstructive Pulmonary Disease (COPD) in a Primary Care Health Unit (PCHU).

Method: We conducted a retrospective, observational descriptive study in a population of patients with COPD belonging to PCHU Lethes (Ponte de Lima, Portugal). Were included all patients diagnosed with COPD and a registry of at least one spirometry . The data were obtained by consulting digital clinical process in software SClinico ® and National Health Data Platform®; were considered records until 31/07/2017.

Results: This study included 136 patients. A dose of two available anti-pneumococcal vaccines was prescribed in 44% of these. However, only 38% had records of at least one dose of one of the two anti-pneumococcal vaccines (what corresponds to 86% of all prescribed vaccines), and 11% had records of administration of the two vaccines. Comparing the two vaccines, 39% of patients had at least one prescription of 23-valent polysaccharide vaccine (23-PPV), of which 87% did the vaccination. It corresponds to a coverage with 23-PPV in 34% of patients with COPD. In case of 13-valent conjugate vaccine (13-PCV), 18% of patients had one prescription and, of these, 87,5% did the vaccination. Thus, the coverage with 13-PCV was 15% of patients with COPD.

Conclusion: This study revealed a low rate of prescription and a low rate of coverage with anti-pneumococcal vaccines in COPD patients. Given the importance of this vaccination in these patients, this study gave rise to a project of continuous quality improvement in Health Unit. These data are also a potential starting point for a study of the factors that determine the prescription of these vaccines and compliance by patients.

Declaration of Interest: The authors declare that they have no competing interests.

The Ethics Comittee of Local Health Unit of Alto Minho assessed and approved the research protocol.

References and Clinical Trial Registry Information: Global Strategy for the Diagnosis, Management and Prevention of COPD. Global Initiative for Chronic Obstructive Lung Disease (GOLD). 2017. [online]

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Asthma phenotypes in primary care

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Background: Current guideline-based primary care asthma management is a one-size-fits-all approach. To allow for more personalised management, we aimed to identify distinct and clinically relevant phenotypes, based on easily obtainable parameters, and to assess long-term asthma outcomes of these phenotypes.

Method: We analysed data from a randomised controlled trial, with 611 adult asthmatics, 18-50 years, with one year follow-up. We assessed 15 parameters using a hierarchical clustering strategy. Subsequently, outcomes at 12 months follow-up for the identified clusters were compared, including: asthma control (Asthma Control Questionnaire (ACQ)), quality of life (Asthma Quality of Life Questionnaire (AQLQ)), exacerbation-rate and medication-usage.

Results: Five clusters were identified using baseline data: 1 'early atopic', 2 'late-onset females', 3 'reversible', 4 'smokers', 5 'exacerbators'. Long-term follow-up showed clinically meaningful differences between different phenotypes for all outcomes, as example see figure 1.

Generally the 'early atopic' subgroup showed the most favourable results and the 'exacerbators' the least favourable.

Discussion: Five distinct and easily identifiable asthma phenotypes were established in primary care, which significantly differ in asthma outcomes over a one year follow-up period. Phenotyping patients allows for a more personalised asthma management strategy and could help identify which patients to review more regularly.

Age- and sex-specific prevalence of chronic comorbidity in adult patients with asthma: a real-life study in general practice

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Aim: We aimed to determine age- and sex-specific prevalence estimates of the full range of chronic comorbid diseases in adults with asthma in general practice.

Method: Retrospective cohort study based on 32,787 electronic medical records of patients aged ≥16 years with asthma from 179 general practices in the Netherlands. Age- and sex-specific prevalence estimates of 76 chronic comorbidities in 14 disease categories based on International Classification of Primary Care (ICPC) codes were analysed.

Results: Chronic comorbidity was present in 65.3% of male and 72.8% of female asthma patients, with female patients having a higher mean (SD) of 2.0 (2.1) chronic comorbid diseases compared to male patients (mean±SD; 1.7±2.0). This mean±SD rose to 5.0±2.7 diseases in the 75+ age group. Most prevalent comorbid conditions were hypertension (20.1%), osteoarthritis (11.5%), eczema (11.5%) and dyspepsia (10.7%). Compared to males, female asthma patients showed higher odds for presence of comorbid disease in eight disease categories. Neurological (Odds ratio [OR]; 95% confidence interval: 2.01; 1.76-2.29), bloodforming/lymphatics (OR 1.83; 1.38-2.42) and musculoskeletal diseases (OR 1.82; 1.69-1.95) showed the highest association with female sex. Females had lower odds of having pulmonary cancer (OR 0.59; 0.42-0.84), urogenital diseases (OR 0.82; 0.75-0.89) and eye/ear diseases (OR 0.89; 0.82-0.97).

Conclusion: Chronic comorbidity is highly prevalent in adults with asthma, even more in women than in men. The odds of having a specific comorbidity may differ between the sexes. This knowledge may help general practitioners to manage and determine the role of comorbidity in a specific asthma patient, which may lead to better asthma outcomes and a more patient-centered treatment.

Declaration of Interest: The authors declare that they have no competing interests. GlaxoSmithKline funded the study with a research grant.

Using fractional exhaled nitric oxide to guide step down treatment decisions in asthma patients: a systematic review and individual patient data meta-analysis

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Aim: To assess the value of fractional exhaled nitric oxide (FeNO) in guiding step down treatment decisions in patients with asthma.

Method: We searched Medline and Medline In Process (OvidSP) [1946-], EMBASE (OvidSP)[1974-], Cochrane Central Register of Controlled Trials (Cochrane Library, Wiley) and Web of Science Core Databases (Web of Science, Thomson Reuters) until 7th November 2016 with no language restrictions. We included studies which recruited patients aged 12 years and over with clinician-diagnosed asthma maintained on low or medium dose inhaled corticosteroids (ICS) in whom FeNO was measured before stepping down ICS.

To examine the relationship between FeNO and acute exacerbations, we performed multi-level mixed-effects logistic regression accounting for within-study clustering, age and sex. We calculated net benefit values across a range of risk thresholds, comparing our model with "step down all patients" and "step down none" strategies. For risk thresholds where our model showed net benefit over these strategies, we calculated observed exacerbation risks with 95% confidence intervals (CI).

Results: Eight studies met our inclusion criteria. We obtained individual participant data from seven studies (393 participants, 44 with an acute exacerbation [11.2%]). There was no significant association between FeNO and acute exacerbations (adjusted Odds Ratio 1.01, 95% CI 1.00-1.02, P=0.163). However, the net benefit of this model was greater than "step down all patients" and "step down none" strategies when baseline exacerbation risk was 8-18% (Figure 1). Observed exacerbation risk was 1.5-2 times higher in patients whose predicted risk was greater than or equal to risk thresholds within this range (Figure 2).

Conclusion: Using FeNO to guide step down treatment decisions is more beneficial than stepping down treatment in all or no patients in asthma populations where baseline exacerbation risk is 8-18%. Clinicians should consider reducing treatment in patients whose predicted risk is below the baseline population risk.

Declaration of Interest:

This study is funded by a UK National Institute for Health Research (NIHR) Postdoctoral Fellowship awarded to Kay Wang.